

Work Order ID 52115

September 16, 2009 1:11:22 PM



Page 1

Item ID: D209-669-043
Revision ID: B
Item Name: Replacement Skidtube

Accept



Setup Start
Stop



Start Date: 09/16/2009 Start Qty: 1.00
Required Date: 09/30/2009 Req'd Qty: 1.00



Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: umf Date: 09-09-16 Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

Draw Nbr	Revision Nbr
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D2906	Rev B
-------	-------

100	0.00
-----	------



DOCUMENT CONTROL

DC

Memo

0.00

Document Control

Photocopy D209-669 bluefile & type labels per PPP D205-669-043 Chg 002

N/A

110	0.00
-----	------



Skidtubes

Skidtubes

Memo

0.00

Skidtubes

1- Inspect mat'l D2500-1-190 for damage

2-Cut D2500-1-190 per Dwg D2906 if necessary Debur ends

3-Acid etch and Alodine tube per QSI 005 4.1

am 09 - 09 - 21 @

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

Run Start



QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC3- Inspect Part Finish

0.00



QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

130

0.00



Skidtubes

Skidtubes

0.00

Memo

1-Drill pilot holes using drill jig DT8149, DT8711-2 & DT8711-3 (Do not use cutting fluid)

2-Open holes to 0.500" as per Dwg D2906 without cutting fluid

3-Countersink holes as per Dwg D2906 without cutting fluid

4-Deburr and blow out all chips from inside of tube

5-Bond web in place per QSI 015. Allow 12 Hrs. cure time before cutting

Pick:

Qty ☐ Part Number ☐ Description ☐ Batch

A/R ☐ ☐ Sikaflex-291 ☐ M112391 ☐

Sikaflex expire date: 02/20/2010

Start Time: 6:30 AM Date: 9-9-22

Fin Time: 11 AM Date: 9-9-23

pick:

Qty P/N description

1 D2926-3 Web

B/N

B52065

mh

09-09-22

9-9-22

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QC: Date: SPC (Y/N): Date:

Run Start

Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
140		0.00							
	BENDING MACHINE - CROSSTUBES								
CNC Bend 1	Memo	0.00							
CNC Delta 100 Bender	1-Bend as per program COB43FWD & COBRAFT on CNC Bender and Folio FT								
	2-Cut tubes as per Dwg. D2906 & per template DT8185B & DT8185BC								
150		0.00							
	Skidtubes								
Skidtubes	Memo	0.00							
Skidtubes	1-Cut tube as per dwg and ensure ends are perpendicular to ridge								
	2-Deburr ends								
	3-Prepare tube for welding, remove alodine as required.								
160		0.00							
	QC5- Inspect part completeness to step on W/O								
QC	Memo	0.00							
Quality Control									

JDP
9-9-23

N/A 4 > a.m 09-09-23

2 809/09/24

④

④

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

170

0.00



Skidtubes

Large Fab

Skidtubes

Memo

0.00

1-Weld crossbolt spacers D2579 as per Dwg. D2906 and QSI 004.
For D2579 spacers, weld one side, pass 3/8" drill, weld other side, pass 3/8" drill
A/RING Aluminum Rod *mill 999 BE 02/02/24*

2-Grind welds as per Dwg D2906 Grind flush ridge made from bending

3-Drill holes for wearplates using DT8217 Open holes to 19/64", adjust stopper
not to hit web. Deburr *DP 9-9-25*

4-Counterbore crossbolt spacers to 7/16" ID x 1.0" deep as per Dwg D2906,
Deburr holes *AWM 9-9-29*

5-Drill pilot holes for aft & fwd cap using DT8215 open holes to #6" Deburr *DP 9-9-25*

6-Drill pilot holes for Tow ring using DT8091-3, open to .640" and Deburr *AWM 9-9-29*

180



QC

Quality Control

QC10- Inspect visual per QSI004- ground welds

0.00

25 09/01/30

Memo

0.00

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Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:

QC: Date: SPC (Y/N): Date:

Run Start

Stop

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

190

QC5- Inspect part completeness to step on W/O

0.00

27 09/09/30

(+1)

0



QC

Memo

Quality Control

200

Pressure Wash per QSI005 4.3

0.00

27 09/10/01

(+1)

0



HandFinish

Memo

Hand Finishing

210

White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum

0.00

M112260

0.00

27 09/10/01

(+1)

0



Powdercoat

Memo

Powder Coating

START TIME: 8:30 AM
OVEN TEMPERATURE: 320°F
FINISH TIME: 9:00 PM

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____

QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

220

QC3- Inspect Part Finish

0.00

BR 09-10-01

①.



QC

Memo

0.00

Quality Control

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

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Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start
Stop

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	----------------	--------------	--------------	---------------	---------------	------------------	----------------

230

0.00



HandFinish

HandFinishing

Memo

0.00

Hand Finishing

1-Install inserts & wearplates as per Dwg. D2906. Use a drop of Sikaflex on insert holes before installing wearplates.

A/R ☐ ☐ ☐ Sikaflex-291 ☒ 11/2391

Sikaflex expire date: 10/30

2-Coat D2594-3 O' rings with Petroleum Jelly and install on D2594-1 plugs as per Dwg D2906

3-Inspect for foreign object per QSI 024

4-Install D2855 Fwd & Aft Cap as per Dwg D2906 and seal Fwd & Aft Cap with Sikaflex. Clean excess adhesive

A/R ☐ ☐ ☐ Sikaflex-291 ☒ 11/2891

Sikaflex expire date: 10/30

5-Wing Walk as per Dwg D2906 and QSI 005 4.4

Batch: m112106

BL 091001. D.

MO 0910/01

W/O:		WORK ORDER CHANGES					
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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Setup Start



Stop



Start Date: 09/16/2009 Start Qty: 1.00



Cust Item ID:

Required Date: 09/30/2009 Req'd Qty: 1.00



Customer:

Reference:

Approvals: Process Plan: _____ Date: _____ Tooling: _____ Date: _____
QC: _____ Date: _____ SPC (Y/N): _____ Date: _____

Run Start



Stop



Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Draw Number	Draw Rev.	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
240 	QC5- Inspect part completeness to step on W/O	0.00							
QC Quality Control	Memo Inspect Aft Cap, Fwd Step and Wing Walk of work to Current Step Inspect for Foreign objects per QSI 024	0.00	27 Sealube						
250 	Packaging	0.00							
Packaging	Memo Identify and pack for shipping as per PPPD209-669-043 Location: <u>PPP 52142</u> PPP Rev: <u>52142</u>	0.00							
260 	QC21- Final Inspection - Work Order Release	0.00							
QC Quality Control	Memo	0.00							

09/16/05 (1)

09/10/05

09-10-5

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

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Picklist Print

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Page 1

9

Work Order ID: 52115

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube

Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2500-1-190RevU/R		Manufactured	No			110	Each	0.0000	1.0000			
Ext'n - 'I' Beam Tube 4"												
D2926-3RevA		Manufactured	No			110	Each	1.0000	1.0000			
Web												

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

46846

1

1

D2579RevE

Manufactured

No

170

Each

284.0000

19.0000

Crossbolt Spacer

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

284

43988

4

46434

4

46956

2

47797

9

48272

2

51314

100

51315

163

A

B 51525

(19)

BE 09/09/24

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D2855RevA  Cap		Manufactured	No			230	Each	15.0000	2.0000			

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP6 50770

15

50513

15

AN3-5A

Purchased

No

230

Each

2,461.000 4.0000



Bolt

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

2461

100188

192

105057 ✓

2243

15205

26

2 BR 09-10-01

4 BR 09-10-01

W/O:		WORK ORDER CHANGES					
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Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN960JD10L 		Purchased	No			230	Each	6,485.000	4.0000			
Washer												

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST	6485	
101291	16	
104885	153	
105793	236	
109632 ✓	1080	
110985	5000	

+ BR09-10-1

ALS7-1032-130

Purchased

No

230

Each

3,348.000 44.0000



Insert

Warehouse Loc Qty Loc Code
Location

Main Warehouse

ST	3348	
105855	16	
108606	52	
111529	1488	
111779 ✓	1792	

44 BR09-10-1

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Shop Packet Print

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Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
AN3C4A  BOLT		Purchased	No			230	Each	400.0000	44.0000			

Warehouse
Location

Loc Qty

Loc Code

Main Warehouse

ST 112720

400

112082

14

112314

140

112612

246

44, BR 09-10-01.

AN960C10L



Purchased

No

230

Each

6,964.000

44.0000



washer

Warehouse
Location

Loc Qty

Loc Code

OFFSHORE

FG

100

103585

100

Main Warehouse

ST

6864

112116

1864

112612 ✓

5000

44 BR 09-10-01.

W/O:		WORK ORDER CHANGES					
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Required Date: 09/30/2009

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D2594-3RevC		Manufactured	No			230	Each	864.0000	14.0000			
O-Ring, 205 Skidtube												

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

FP

51613 ✓

500

500

Main Warehouse

ST

364

27168

44

29908

320

D2594-1RevC

Manufactured No

230

Each

1,121.000

14.0000



Plug, 205 Skidtube

Warehouse

Loc Qty

Loc Code

Location

Main Warehouse

ST

1121

42221

16

42807

92

43884

3

46435

2

47251

83

51527

100

51757 ✓

825

14 BR09-10-01.

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Shop Packet Print

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DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

September 16, 2009 1:11:22 PM

Page 6

Work Order ID: 52115



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3564-9RevD		Manufactured	No			230	Each	45.0000	1.0000			
Wearshoe												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP19

40

51675 ✓

40

Main Warehouse

ST

5

44659

1

45825

1

51258

3

1 BL 09-10-01

D3564-11RevD

Manufactured No

230

Each

15.0000

1.0000



Wearshoe

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP

13

51256

13

Main Warehouse

ST

2

45823

1

50112

1

1 BL 09-10-01

September 16, 2009 1:11:22 PM

Shop Packet Print

Page 6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

September 16, 2009 1:11:22 PM

Work Order ID: 52115

Parent Item: D209-669-043RevB

Parent Item Name: Replacement Skidtube


Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3564-5RevD  Wearshoe		Manufactured	No			230	Each	47.0000	1.0000			

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
OFFSHORE		
FG	2	
34806	2	
Main Warehouse		
FP19	43	
51257	2	
51655 ✓	41	
Main Warehouse		
ST	2	
45824	1	
47433	1	

1 Bk 09-10-1

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

September 16, 2009 1:11:22 PM

Work Order ID: 52115



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3566-1RevC		Manufactured	No			230	Each	49.0000	2.0000			
Gasket												

Warehouse Loc Qty Loc Code

Location

Main Warehouse

FP 52313

39

2 BR 10-1

51612

23

51912

16

Main Warehouse

ST

10

46349

1

47434

2

51218

1

51259

6

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

September 16, 2009 1:11:22 PM

Page 9

Work Order ID: 52115



Parent Item: D209-669-043RevB



Parent Item Name: Replacement Skidtube

Start Date: 09/16/2009

Required Date: 09/30/2009

Comments:

Start Qty: 1.00

Required Qty: 1.00

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Remaining Qty To Pick	Qty Issued	Date Issued	Status
D3566-5RevC		Manufactured	No			230	Each	55.0000	1.0000			

Gasket

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
Main Warehouse		
FP	12	
51929	12	
Main Warehouse		
FP19	36	
51669 ✓	36	
Main Warehouse		
ST	7	
36113	1	
46186	1	
47318	1	
51260	4	

1 BR09-10-1

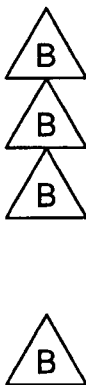
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DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



QTY -041	QTY -043	Part Number	Description
X		D2906-041	SKIDTUBE ASSEMBLY
	X	D2906-043	SKIDTUBE ASSEMBLY
1	1	D2500-1-190	EXTRUSION
22	19	D2579	CROSS BOLT SPACER
12	14	D2594-1	PLUG
12	14	D2594-3	O-RING
2	2	D2855	AFT CAP
1		D2926-1	WEB
	1	D2926-3	WEB
1	1	D3564-9	WEARSHOE (REPLACES D2577-1)
1	1	D3564-11	WEARSHOE (REPLACES D2577-3)
1	1	D3564-5	WEARSHOE (REPLACES D2577-5)
1		D3564-15	WEARSHOE
2	2	D3566-1	GASKET
1	1	D3566-5	GASKET
1		D3566-15	GASKET
50	44	ALS7-1032-130 or AKS7-1032-130 or AKS4-1032-130 or ALS4-1032-130	INSERT
50	44	AN3C4A	BOLT
4	4	AN3-5A	BOLT
50	44	AN960C10L	WASHER
4	4	AN960JD10L	WASHER

#52115

GENERAL NOTES:

- 1) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
- 2) LENGTH OF D2500-1 EXTRUSION BEFORE BENDING = 190 INCHES.
- 3) INSERT D2926-1/-3 WEB TO LOCATION SHOWN OFF AFT END OF SKIDTUBE AND BOND WEB INTO OUTER TUBE WITH NON-STRUCTURAL SIKAFLEX-241/291 ADHESIVE PER DART QSI 015 BEFORE BENDING. ENSURE HOLES LINE-UP.
- 4) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 5) BEND AS A SMOOTH RADIUS STARTING WITH A MAXIMUM CENTERLINE RADIUS OF 60 AND ENDING WITH A MINIMUM RADIUS OF 30. A MAXIMUM REDUCTION OF 0.200 IN DIAMETER IS ALLOWABLE IN THE BENT PORTION OF THE TUBE.
- 6) USE DART DRILL TEMPLATE DT2906-041T1 (D2906-041) OR DT2906-043T1 (D2906-043) TO LOCATE AND DRILL Ø0.297 HOLES FOR WEARSHOE INSERTS. INSTALL ALS7-1032-130 PER SECTION C-C AFTER FINISH. INSTALL AN3C4A BOLTS AND AN960C10L WASHERS WITH SIKAFLEX-241/291.
- 7) WELDING TO BE DONE PER DART QSI 004.
- 8) FINISH:
ACID ETCH, ALODINE PER DART QSI 005 4.1 PRIOR TO INSERTING D2926-1/-3 WEB. POWDER COAT ASSEMBLY WHITE (REF 4.3.5.1) PER DART QSI 005 4.3 BLACK ANTI-SKID PAINT AS INDICATED PER DART QSI 005 4.4
- 9) INSERT D2594-1 PLUG C/W D2594-3 O-RING IN HOLES MARKED 'P' (BOTH SIDES OF TUBE) AFTER FINISH (12 PLACES).
- 10) ALL DIMENSIONS ARE IN INCHES.

RELEASED

07.09.04

B	UPDATE DRAWING FORMAT; RE-ORGANIZE; ADD STAINLESS STEEL WEARPLATES AND GASKETS CHANGE WEARPLATE HARDWARE TO SS; PG 1: ADD NOTE 10; PG 2 C7: REMOVE AFT Ø0.640 HOLE FROM -041; PG 3 C3: CORRECTED -043 CAP P/N; PG 3 D7: 38 PLACES WAS 44 PLACES;	CB	07.08.21
A	NEW ISSUE	CP	04.06.22
REV.	DESCRIPTION	BY	DATE
DESIGN	90	DART AEROSPACE LTD	
DRAWN	C.B.	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. B
MFG. APPR.	21	D2906	SHEET 1 OF 3
APPROVED	21	TITLE	SCALE
DE APPR.	21	AH-1 (209) SKIDTUBE ASSEMBLY NTS	
DATE	07.08.21	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

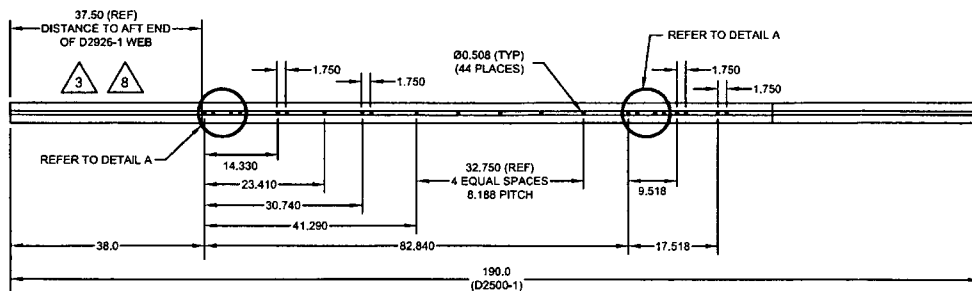
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

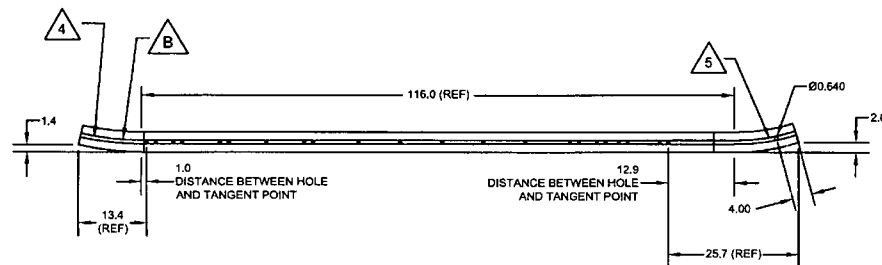
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
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NOTE: Date & initial all entries

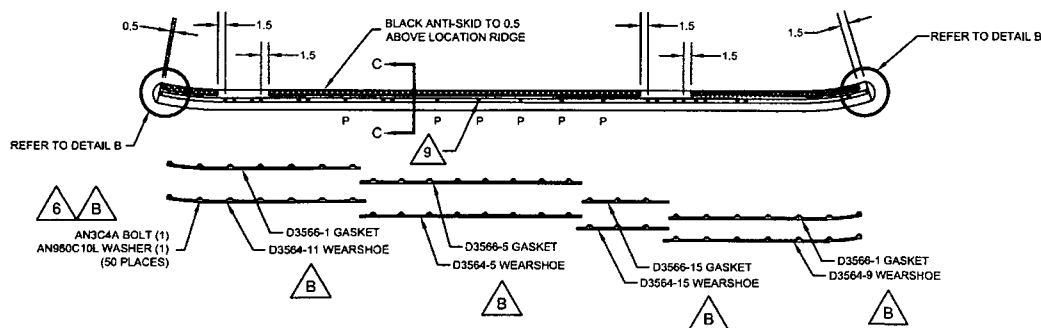
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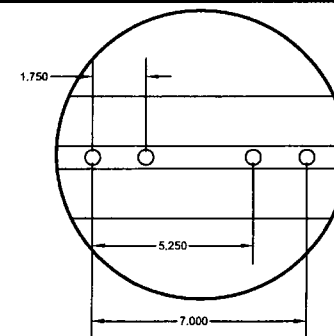
D2906-1 DRILLING DETAIL



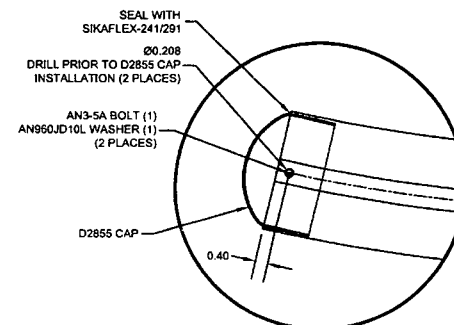
D2906-041 BENDING AND CUTTING DETAIL



D2906-041 ASSEMBLY DETAIL

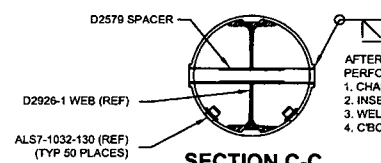


DETAIL A
SCALE 1:4



DETAIL B
SCALE 1:4

RELEASED
07.09.04



SECTION C-C
SCALE 1:4

AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:
1. CHAMFER HOLE 0.050 X 45°
2. INSERT D2579 SPACER (22 PLACES)
3. WELD INTO PLACE AND GRIND FLUSH
4. C-BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP

DESIGN	47	DART AEROSPACE LTD	
DRAWN	C.B.	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. B
MFG. APPR.	21	D2906	SHEET 2 OF 3
APPROVED	47	TITLE	SCALE
DE APPR.	47	AH-1 (209) SKIDTUBE ASSEMBLY	1:24
DATE	07.08.21	COPYRIGHT © 2004 BY DART AEROSPACE LTD	
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8 7 6 5 4 3 2 1

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Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D2906-3 DRILLING DETAIL

D2906-043 BENDING AND CUTTING DETAIL

D2906-043 ASSEMBLY DETAIL

DETAIL A
SCALE 1:4

DETAIL B
SCALE 1:4

RELEASED

07.09.04

- AFTER DRILLING AND BENDING ASSEMBLY
PERFORM THE FOLLOWING FOR Ø0.508 HOLES ONLY:**
- 1. CHAMFER HOLE 0.050 X 45°**
 - 2. INSERT D2578 SPACER (22 PLACES)**
 - 3. WELD INTO PLACE AND GRIND FLUSH**
 - 4. C-BORE D2579 SPACER TO Ø0.437 X 1.00 DEEP**

DESIGN	90	DART AEROSPACE LTD	
DRAWN	CB	HAWKESBURY, ONTARIO, CANADA	
CHECKED	PH	DRAWING NO.	REV. B
MFG. APPR.	21	D2906	SHEET 3 OF 3
APPROVED	10	TITLE	SCALE
DE APPR.	11	AH-1 (209) SKIDTUBE ASSEMBLY	1:2
DATE	07.08.21	COPYRIGHT © 2004 BY DART AEROSPACE LTD THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL AND IS SUPPLIED ON THE EXPRESS CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OR COPIED OR COMMUNICATED TO ANY OTHER PERSON WITHOUT THE WRITTEN PERMISSION FROM DART AEROSPACE LTD.	

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			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

NO. 208

AWS D17.1.2001
QUALIFICATION TEST RECORD

Name: Barclay Elliott
Job number: 52165
Part number: A209-669-043
Description: 209 Skid tube
Welding Process: Tig[☒] Mig[]
Base material: Alum
Current: AC[☒] DC[]

TEST REQUIREMENTS AND RESULTS

Visual: pass[☒] fail[]
Penetration: pass[☒] fail[]

UNACCEPTABLE

Cracks: pass[☒] fail[]
Undercut: pass[☒] fail[]
Pin holes: pass[☒] fail[]
Overlap (cold lap): pass[☒] fail[]
Porosity (surface): pass[☒] fail[]
Coloration: pass[☒] fail[]

Qualifier David David Date of Test Coupon 09/09/23
Welder Barclay Elliott Date of Test Coupon 09/09/23

The above named individual is qualified in accordance with AWS D17.1.2001 to weld